



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/940,679	08/27/2001	Majid L. Riazat	267/032	5559
23639	7590	04/19/2006	EXAMINER	
BINGHAM, MCCUTCHEN LLP THREE EMBARCADERO CENTER 18 FLOOR SAN FRANCISCO, CA 94111-4067			LACYK, JOHN P	
			ART UNIT	PAPER NUMBER
			3735	

DATE MAILED: 04/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/940,679

Applicant(s)

RIAZIAT ET AL.

Examiner

John P. Lacyk

Art Unit

3735

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 January 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 29-32, 34, 35, 38-45, 49 and 52-64 is/are pending in the application.
- 4a) Of the above claim(s) 57-64 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 29-32, 34, 35, 38-45, 49 and 52-56 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

Art Unit: 3735

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 29-32, 34-35, 38-45, 49, 52-56 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 30 and 53 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: The claims are directed to a marker system however all that is claimed is the marker. The optical imaging apparatus is not a positively recited element in that the only reference to it is that the markers are detectable or viewable by the imaging apparatus, the imaging apparatus is not positively claimed until claims 52 and 54. The claims appear to need to have the imaging apparatus positively claimed in order to claim a complete system and not just the marker.

3. Newly submitted claims 57-64 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: The new claims are directed to a method of using a marker system that requires coupling first and second markers to a person, however the originally elected claims were directed to a marker system and nowhere recited claim language having more than one marker, therefore the newly claimed method would be directed to a method that is independent or distinct from a method using the marker system originally elected.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 57-64 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 29-32, 34-35, 38-45, 49, 52-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Josefsson et al (A flexible high-precision video system for digital recording of motor acts through lightweight reflex markers) in view of Leis (6,061,644).

Josefsson et al discloses retro-reflective markers and teaches (page 121) that the markers can be spherical or half-spherical (hemispherical). The markers use an imaging apparatus (CCD video camera) to detect the markers and make sure they are positioned properly. The processing is also discussed as being done in real-time. Josefsson et al discloses the claimed device except specifically teaching the marker having two or more reflective elements or reference locations. Leis discloses a system

Art Unit: 3735

for determining position and orientation of a body using retro-reflective markers (abstract). Leis discloses (column 3, lines 55-67) the use of a rigid body (11), which is considered to be a marker block, and the body contains a plurality (at least two) retro-reflective point markers, which is considered to meet the limitations of two or more reflective elements or reference locations.

While Josefsson et al teaches a half-spherical marker covered with retro-reflective paint, the half-spherical marker or body would inherently be considered a "marker block" and the reflective paint would have first and second reference locations which could be the side and top of the marker. Josefsson et al does not specifically teach two or more reflective elements positioned relative to each other. Leis, as taught above, clearly shows that such elements are well known to be used with a retro-reflective marker. Therefore a modification of Josefsson et al to specifically include a block and at least two or more reflective elements or locations would have been obvious in view of Leis since Leis teaches that such markers using retro-reflective material is well known in the art. Further the use of a spherical or hemispherical shape would also inherently allow for the multiple markers or locations to be simultaneously detected by the imaging apparatus. With respect to claims 55-56, the Josefsson et al marker is not a surgical instrument.

6. Applicant's arguments filed 01/23/06 have been fully considered but they are not persuasive. Applicant argues, with respect to claims 30 and 53 being indefinite for omitting essential elements, that the specification does not describe such elements to

Art Unit: 3735

be essential and the specification shows an embodiment that may include just the marker (without the optical imaging apparatus). However the optical imaging apparatus is essential for a marker system. The embodiment of Figures 7, 9, 10 are directed to only the marker and/or marker block which previously had been the subject of restriction. Applicant elected the marker system, and have received an action on the merits directed to such elected claims, which would need the optical imaging apparatus in order to have a complete working system, without the imaging apparatus the claims are merely directed to a marker and/or marker block which is directed to a non-elected invention.

Applicant argues that Josefsson et al does not disclose a marker block having two reference locations or two reflective elements. As discussed above the marker and retro-reflective paint of Josefsson et al is considered to show first and second reference locations which could be two different locations on the marker such as side and top, as for two reflective elements Leis was used to provide the teaching of more than one reflective element. Applicant argues that Leis discloses surgical instruments and not marker blocks and therefore cannot be combined with Josefsson et al. Leis teaches a system for determining the position and orientation of a "body", wherein each of the bodies has two reflective markers a predetermined, fixed relationship to each other. While the body is a surgical instrument, the broad teaching provided by Leis is determining the location and orientation of a body in general and is not limited to teaching only putting reflective markers on surgical instruments but on any body or element in which the location and orientation needs to be determined with respect to the

Art Unit: 3735

patient. Therefore a modification of Josefsson et al such that the retro-reflective paint is substituted with two reflective markers would have been obvious since this would allow for the position and orientation of the marker to be better determined.

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

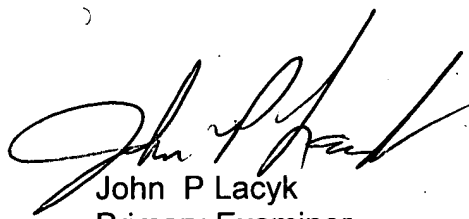
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John P. Lacyk whose telephone number is 571-272-4728. The examiner can normally be reached on Mon-Fri, 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ali Imam can be reached on 571-272-4737. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3735

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



John P Lacyk  
Primary Examiner  
Art Unit 3735

J. P. Lacyk